

# Birkhauser Concrete Construction Manual

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**Detailing for Landscape Architects** - Thomas R. Ryan 2011-02-25

The new industry standard on landscape architectural detailing *Detailing for Landscape Architects* takes the reader on an educational journey across three major areas of landscape architectural detailing— aesthetics, function, and constructibility—to demonstrate how powerful design patterns can transform thematic ideas into awe-inspiring built realities. Richly illustrated examples accompany concise discussions of a varied blend of landscape design/detailing issues such as water movement, soil environments, articulating structures and construction assemblies, life cycle costing, sustainability, health and safety, and more. This book approaches the subject of detailing in a systematic manner, and provides a balanced framework for design and workmanship that conveys the essence of the built landscape. *Detailing for Landscape Architects* shows how details can: Reinforce design ideas through the continuity and discontinuity of patterns Actively contribute to the overall form or geometry of the design Be designed to be durable and flexible while enhancing the entire design Gracefully accommodate the natural growth and change of plant materials Anticipate maintenance needs to minimize future disruptions Maximize their cost effectiveness through understanding their function while designing to meet those functions Including chapters that apply detail patterns to the design of an urban plaza, a roof deck, and a residence, *Detailing for Landscape Architects* offers guidance on solving specific technical requirements, while preserving and enhancing

the visual qualities that celebrate innovation, and carry forth a timeless quality of building.

**Interiors Construction Manual** - Gerhard Hausladen 2012-12-10

Soccer stadiums, airports, theaters, museums – it falls to very few architects to tackle spectacular building tasks like these. The everyday work of most architects is more often focused on "manageable" projects like the renovation, remodeling, or rebuilding of single- and multi-family houses, schools, and offices. Whatever the nature of the building task, interior construction is always a significant design and qualitative challenge that calls for highly detailed technical expertise. After all, it affects the realm that will be brought to life and utilized by the user when the task is finished, and whose aesthetic and functional serviceability will be put to the test each and every day. The *Interior Construction Manual* supports planners in their daily work as a practical planning aid and reference work with the relevant standards, guidelines, reference details, and constructional solutions, all illustrated by built example projects. It brings together the crucial facts on all aspects of interior construction and presents the key fundamentals of building physics, fire protection, interior construction systems, and openings. In addition, it offers concrete tips on integrated planning approaches, energy and sustainability issues, materials used in interior construction, hazardous substances, and dealing with building services and light planning.

**Facade Construction Manual** - Thomas Herzog 2004-01-01

«Facade Construction Manual» provides a

systematic survey of contemporary expertise in the application of new materials and energy-efficient technologies in facade design. It surveys the facade design requirements made by various types of buildings, as well as the most important materials, from natural stone through to synthetics, and documents a diversity of construction forms for a wide range of building types.

**Masonry Construction Manual** - Günter Pfeifer 2001

The construction manuals from Edition Detail have set new standards in the field of specialist literature, becoming an indispensable part of any architect's library. The latest volume in this series examines brickwork and the wide range of possibilities it offers. A completely new and revised edition, it documents in detail the technical principles involved in using brickwork for building, it examines the various materials used, their properties, the sizes and forms of bricks, the bonds, and the behaviour of brickwork under stress. The methods of building with brick are also dealt with in detail. In addition, full information is provided on the requirements with respect to heat, damp, sound-proofing and fire protection, and the most recent standards and norms are listed. Finally, a large number of built examples are presented, complete with plans and details, all of which illustrate the many applications of brickwork in contemporary construction. All plans have been specially produced by the editorial department Detail for this book and for ease of comparison, they have been drawn to the same scale.

*Flat Roof Construction Manual* - Klaus Sedlbauer 2012-12-17

often described as the "fifth façade", the flat roof is extremely popular with architects. Its essential task is to shelter the space beneath it from the elements. Beyond this, the use of flat roofs may be optimized by integrating them as green roofs, roof terraces, circulation areas, and even productive solar roofs. In practice, however, their correct and professional realization is a highly exacting task: in addition to providing the planner with basic rules of construction and design, the Flat Roof Manual also supplies an overview of the use and construction types as well as the standard assemblies for flat roofs. Together with the most

important standards and bodies of regulations, construction drawings of the principal connection points round out the volume.

**Roof Construction Manual** - Eberhard Schunck 2003

"This book is a vital reference work on the construction of pitched roofs. It offers extensive and fundamental information on all common types of roofing, and provides practical details for their construction".--BOOKJACKET.

Understanding Steel Design - Terri Meyer Boake 2013-03-04

Understanding Steel Design is based on an overall approach to understand how to design and build with steel from the perspective of its architectural applications. Steel is a material whose qualities have enormous potential for the creation of dynamic architecture. In an innovative approach to the reality of working with steel, the book takes a new look both at the state of tried-and-tested techniques and at emerging projects. Hundreds of steel structures have been observed, analyzed and appraised for this book. In-depth construction photographs by the author are complemented by technical illustrations created to look more closely at systems and details. Drawings supplied by fabricators allow greater insight into a method of working with current digital drawing tools.

Refurbishment Manual - Georg Giebeler 2012-12-10

Planning tasks involving existing structures are currently among the most common types of contract, and almost every structure makes different demands and raises individual problems. Reflecting this state of affairs, there are a dizzying number of publications on the market, most of which are quite specialized. The Refurbishment Manual cuts through this jungle of publications. It defines terms and concepts, combines the narrowly focused perspectives of the specialists, and offers concrete approaches to this wide-ranging topic. The Refurbishment Manual closes the gap between basic constructional literature and one-sided, highly specialized technical literature. It constitutes a practical planning aid on the subject of refurbishment, providing a basic introduction to the relevant aspects of building physics, fire protection, sustainability and energy, hazardous materials, construction materials for interior and

façade, historic preservation, and technical building equipment. It offers concrete tips on planning steps, methods of building analysis, and cost benchmarks, as well as clear constructional solutions with built projects as examples. A unique feature of the volume is the specially developed timeline, which allows the planner to quickly grasp, categorize, and evaluate a concrete building task and thus obtain an efficient planning overview. Planungsaufgaben im Bestand gehören derzeit zu den häufigsten Auftragsarten und nahezu jedes Bauwerk stellt andere Anforderungen und weist individuelle Probleme auf. Analog dazu gibt es auf dem Markt eine fast unüberschaubare Anzahl Publikationen in meist sehr spezialisierter Form. Der Sanierungsatlas möchte Licht in diesen Publikationsdschungel bringen: Er definiert Begrifflichkeiten, vereint die fokussierenden Betrachtungsweisen der Fachleute und vermittelt konkrete Herangehensweisen an diese weit gefächerte Thematik. Der Sanierungsatlas schließt die Lücke zwischen grundlegender Baukonstruktions- und sehr einseitig spezialisierter Fachliteratur. Das Buch stellt eine praktische Planungshilfe zum Thema Sanierung dar - und zwar in Form von relevanter Grundlagenvermittlung zu Bauphysik, Brandschutz, Nachhaltigkeits- und energetischen Aspekten, Schadstoffen, Baustoffen im Innenraum und an der Fassade, zu Aspekten der Denkmalpflege ebenso wie zur technischen Gebäudeausstattung. Er liefert konkrete Hinweise zu Planungsschritten, Methoden der Bauanalyse und Kostenkennwerten sowie anschauliche Konstruktionslösungen am Beispiel gebauter Projekte. Einzigartig ist die speziell entwickelte Zeitschiene, mit deren Hilfe eine konkrete Bauaufgabe schnell erfasst, kategorisiert und bewertet werden kann - und die dem Planer somit einen effizienten Planungsüberblick verschafft.

Building with Infra-lightweight Concrete - Claudia Lösch 2020-02-10

Infra-lightweight concrete combines the structural and thermal insulation functions of the building envelope in one monolithic material, thus providing new design options. The handbook is a practical guide to building with

this new type of material. The architects and structural engineers of the interdisciplinary team of authors combine their findings from many years of research, including from a project in which the team investigated the architectural and structural potential of infra-lightweight concrete in multi-story residential buildings. In addition to essential information on designing with the material, including construction details, and an overview of the building physics properties, practical advice on building details is provided in the form of sizing tables and numerous details from various projects.

Libraries: A Design Manual - Nolan Lushington 2016-04-25

Libraries as a building type have been subjected to substantial changes in particular in the past ten years. Milestones such as Rem Koolhaas' Seattle Central Library from 2004 reinvented the typology completely and reflected a development from elitist temple of learning to a public living room. Hybrids between library and department store or theater were conceived. Today, the ubiquity of electronic devices and media needs to be taken into account by the designer: every new library has areas without any books now. This work of reference explains systematically all technological and planning requirements of library design. Special features such as RFID, signage, acoustics or specific structural load issues are explained in texts by experts from the fields of architecture and library science. Finally, approximately 40 best-practice case studies of contemporary library design are documented extensively. They are organized in four categories - national libraries, large public libraries, small public libraries, university libraries - and comprise high-profile examples such as Jo Coenen's Openbare Bibliotheek Amsterdam, Alvaro Siza's Public Library Viana do Castelo in Portugal or Mecanoo's Library of Birmingham from 2013. The Architecture Reference & Specification Book updated & revised - Julia McMorrough 2018-01-09

Most architectural standards references contain thousands of pages of details, overwhelmingly more than architects need to know to know on any given day. The updated and revised edition of Architecture Reference & Specification contains vital information that's essential to

planning and executing architectural projects of all shapes and sizes, all in a format that is small enough to carry anywhere. It distills the data provided in standard architectural volumes and is an easy-to-use reference for the most indispensable--and most requested--types of architectural information.

**Basics Loadbearing Systems** - Alfred Meistermann 2017-05-22

Loadbearing systems are the basis of any structure. In order to provide architecture students with an easily understandable introduction to the field of supporting structures, this volume begins with the fundamentals of loads and forces and then moves on to building components and finally to loadbearing systems, together with their characteristic attributes. Subjects: Loads; Forces; Structural building components; Supporting structures and systems; Presizing.

**Materiality and Interior Construction** - Jim Postell 2011-06-17

A comprehensive reference of materials for interior designers and architects Choosing the right material for the right purpose is a critical—and often overlooked—aspect in the larger context of designing buildings and interior spaces. When specified and executed properly, materials support and enhance a project's overall theme, and infuse interior space with a solid foundation that balances visual poetry and functionality. *Materiality and Interior Construction* imparts essential knowledge on how materials contribute to the construction and fabrication of floors, partitions, ceilings, and millwork, with thorough coverage of the important characteristics and properties of building materials and finishes. Individual coverage of the key characteristics of each material explores the advantages and disadvantages of using specific materials and construction assemblies, while helping readers discover how to make every building element count. In addition, *Materiality and Interior Construction*: Is highly illustrated throughout to show material properties and building assemblies Supplies rankings and information on the "green" attributes of each material so that designers can make informed decisions for specifications Is organized by application for easy and quick access to information Includes a

companion website, featuring an extensive online image bank of materials and assemblies Rather than a typical catalog of materials, *Materiality and Interior Construction* is efficiently organized so that the reader is guided directly to the options for the location or assembly they are considering. Reliable and easy to use, *Materiality and Interior Construction* is a one-stop, comprehensive reference for hundreds of commonly used materials and their integration as building components—and an invaluable resource that every interior designer or architect should add to their set of tools.

**Construction Materials Manual** - Manfred Hegger 2013-02-12

Until now, the few existing systematic texts on construction materials have primarily been directed at building engineers. An overview for architects, which also considers the importance of construction materials in the sensory perception of architecture—including tactile qualities, smell, color, and surface structure—has not been available. With the publication of the *Construction Materials Manual*, all that has changed. As a basic work aimed equally at the questions and perspectives of architects and building engineers, it will bring together all of the above-mentioned viewpoints. It addresses fundamental questions of sustainability, including life-span, environmental impact, and material cycles, while also presenting material innovations. All of the principal conventional and innovative construction materials are comprehensively documented, with attention to their production, manufacture, fabrication, treatment, surfaces, connections, and characteristics. International examples help to illustrate their use in architecture, where a building's appearance is often defined by a single material. Thus, the *Construction Materials Manual* will support the daily work of architects and engineers in the choice of construction materials in a comprehensive and at the same time vivid and stimulating manner.

*Interior Construction Manual* - Gerhard Hausladen 2010-08-28

Soccer stadiums, airports, theaters, museums - it falls to very few architects to tackle spectacular building tasks like these. The everyday work of most architects is more often

focused on "manageable" projects like the renovation, remodeling, or rebuilding of single- and multi-family houses, schools, and offices. Whatever the nature of the building task, interior construction is always a significant design and qualitative challenge that calls for highly detailed technical expertise. After all, it affects the realm that will be brought to life and utilized by the user when the task is finished, and whose aesthetic and functional serviceability will be put to the test each and every day. The Interior Construction Manual supports planners in their daily work as a practical planning aid and reference work with the relevant standards, guidelines, reference details, and constructional solutions, all illustrated by built example projects. It brings together the crucial facts on all aspects of interior construction and presents the key fundamentals of building physics, fire protection, interior construction systems, and openings. In addition, it offers concrete tips on integrated planning approaches, energy and sustainability issues, materials used in interior construction, hazardous substances, and dealing with building services and light planning.

Construction Materials, Methods and Techniques: Building for a Sustainable Future - Eva Kultermann 2021-05-01

This comprehensive text provides a thorough overview of sustainable methods for site, residential and commercial building construction, covering both traditional and contemporary materials, current industry standards and new and emerging technologies. Organized according to the Construction Specifications Institute (CSI) MasterFormat standards, the text follows a logical structure that charts the sequence of construction step-by-step from project inception to completion. Readers will find ample, up-to-date information on the latest industry advances and best practices, as well as relevant building codes, all within a dynamic, reader-friendly new design. This proven text can help your students gain a clear understanding of today's construction materials, methods and techniques, providing a critical foundation for career success. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

*Floor Plan Manual Housing* - Oliver Heckmann

2017-10-10

The Floor Plan Manual Housing has for decades been a seminal work in the field of architecture. In its 5th, revised and expanded edition, approximately 160 international housing projects built after 1945 are documented and analyzed. The focus is on exemplary and transferrable projects, and on innovative and trendsetting concepts. The systematic representation of all projects allows the reader to compare and evaluate various floor plans – and to be inspired by the wealth of ideas and strategies for one's own design work. The introductory theoretical and historical essays have been newly written or updated, and offer a structured overview of the residential housing typology and its development.

**Building with Earth** - Gernot Minke  
2012-10-02

For a number of years, the healthy and environment-friendly building material earth, in common use for thousands of years, has been enjoying increasing popularity, including in industrialized nations. In hot dry and temperate climate zones, earth offers numerous advantages over other materials. Its particular texture and composition also holds great aesthetic appeal. The author's presentation reflects the rich and varied experiences gained over thirty years of building earth structures all over the world. Numerous photographs of construction sites and drawings show the concrete execution of earth architecture.

Basics Concrete Construction - Katrin Hanses  
2017-05-22

Concrete is the "modern" construction material that has helped shape the fundamental static principles of structural load bearing. Similar to masonry, concrete effectively transmits pressure downward, but its weak point is tractive forces. Concrete has also enabled freer use of architectonic forms. This title imparts the basic knowledge every architect needs to master for planning reinforced and non-reinforced concrete construction.

**Structures and Architecture - Bridging the Gap and Crossing Borders** - Paulo J.S. Cruz  
2019-07-08

Structures and Architecture - Bridging the Gap and Crossing Borders contains the lectures and papers presented at the Fourth International

Conference on Structures and Architecture (ICSA2019) that was held in Lisbon, Portugal, in July 2019. It also contains a multimedia device with the full texts of the lectures presented at the conference, including the 5 keynote lectures, and almost 150 selected contributions. The contributions on creative and scientific aspects in the conception and construction of structures, on advanced technologies and on complex architectural and structural applications represent a fine blend of scientific, technical and practical novelties in both fields. ICSA2019 covered all major aspects of structures and architecture, including: building envelopes/façades; comprehension of complex forms; computer and experimental methods; futuristic structures; concrete and masonry structures; educating architects and structural engineers; emerging technologies; glass structures; innovative architectural and structural design; lightweight and membrane structures; special structures; steel and composite structures; structural design challenges; tall buildings; the borderline between architecture and structural engineering; the history of the relationship between architects and structural engineers; the tectonic of architectural solutions; the use of new materials; timber structures, among others. This set of book and multimedia device is intended for a global readership of researchers and practitioners, including architects, structural and construction engineers, builders and building consultants, constructors, material suppliers and product manufacturers, and other professionals involved in the design and realization of architectural, structural and infrastructural projects.

**Cladding of Buildings** - Alan J. Brookes  
2008-05-07

This key text addresses the topic of lightweight claddings in buildings and is a useful guide and reference resource. Written by well-known specialists in the field, this fourth edition of an established text has been revised throughout to incorporate the latest environmental issues, the use of wood and terracotta in cladding, and use of new materials, particularly the new moulded materials. Two new chapters cover wood and terracotta in cladding. The main types of cladding systems are described in detail and

methods of production, performance characteristics, applications and methods of assembly are explained clearly. Illustrated throughout with photographs and numerous line drawings, this is an essential overview of the subject for both the student and the practising architect.

**Building Physics of the Envelope** - Ulrich Knaack  
2018-05-07

The facade is the building's interface with its environment. It is here that building physics parameters such as heat, humidity, sound and light interact with the building. All these influences need to be controlled by the building envelope in order to ensure the comfort of the user and the functional performance of the architecture. This introduction explains the most important phenomena and then relates them to design and building practice - which materials react in which way to these factors? How do facade systems deal with heat, humidity, sound and light? This practice-oriented book, which is the result of cooperation between an architect and a structural engineer, describes the most important facade materials and constructions under the aspect of their building physics performance.

**Straw Bale Construction Manual** - Gernot Minke  
2020-05-18

Building with straw bales is a technique pioneered a century ago in the state of Nebraska. In recent years there has been a renaissance in the use of straw as a building material largely in the American Southwest, but also in Canada, Australia, France, Holland, Germany, Austria and China. Straw is a renewable resource with excellent insulating properties. It is a cheap and easy-to-use option for self-builders, and even large-scale structures can be erected using timber framework filled with straw. This book is a practical, hands-on guide to building with straw. Fire safety, protection against moisture, damp, pests and parasites are treated in detail. Numerous on-site photos document the process of assembly and construction step by step. 30 exemplary international projects illustrate the wide spectrum of design possibilities with straw.

**Architectural Detailing** - Edward Allen  
2016-02-24

The industry-standard guide to designing well-

performing buildings Architectural Detailing systematically describes the principles by which good architectural details are designed. Principles are explained in brief, and backed by extensive illustrations that show you how to design details that will not leak water or air, will control the flow of heat and water vapor, will adjust to all kinds of movement, and will be easy to construct. This new third edition has been updated to conform to International Building Code 2012, and incorporates current knowledge about new material and construction technology. Sustainable design issues are integrated where relevant, and the discussion includes reviews of recent built works that extract underlying principles that can be the basis for new patterns or the alteration and addition to existing patterns. Regulatory topics are primarily focused on the US, but touch on other jurisdictions and geographic settings to give you a well-rounded perspective of the art and science of architectural detailing. In guiding a design from idea to reality, architects design a set of details that show how a structure will be put together. Good details are correct, complete, and provide accurate information to a wide variety of users. By demonstrating the use of detail patterns, this book teaches you how to design a building that will perform as well as you intend. Integrate appropriate detailing into your designs Learn the latest in materials, assemblies, and construction methods Incorporate sustainable design principles and current building codes Design buildings that perform well, age gracefully, and look great Architects understand that aesthetics are only a small fraction of good design, and that stability and functionality require a deep understanding of how things come together. Architectural Detailing helps you bring it all together with a well fleshed-out design that communicates accurately at all levels of the construction process.

*Advances and Trends in Structural Engineering, Mechanics and Computation* - Alphonse Zingoni 2010-08-16

Advances and Trends in Structural Engineering, Mechanics and Computation features over 300 papers classified into 21 sections, which were presented at the Fourth International Conference on Structural Engineering, Mechanics and Computation (SEMC 2010, Cape

Town, South Africa, 6-8 September 2010). The SEMC conferences have been held every 3 years in

**Timber Construction Manual** - Thomas Herzog 2004-01-01

Das Nachschlagewerk zur Konstruktion mit Holz und Holzwerkstoffen mit einem ausführlichen Kapitel zum Thema Ökologie, bauphysikalischen Grundlagen mit den Schwerpunkten Wärme-, Schall- und Brandschutz. Im Bereich der Tragwerksplanung spielen die neuen Verbindungsmittel eine wichtige Rolle.

High-rise Manual - Johann Eisele 2003

What constitutes a high-rise building? A high-rise is, in fact, any building with more than 9 storeys and not just those striking skyscrapers which shape modern city skylines. In the past architects who designed such structures used to be the exception but in the last 10 years more and more architectural offices have begun to focus on this type of building. However, the sheer complexity of designing and planning the construction of a high-rise as opposed to other building types requires a wealth of specialized experience and expertise. The High-Rise Manual is the first comprehensive reference work on this subject. All relevant aspects of such an undertaking are examined in detail by some 24 specialist authors. Each step is extensively documented including the initial project planning, the building organisation, the laying of the foundations, the supporting structure, the building technology, the office design, and the Facility Management. Theoretical contributions present the basic principles of select

*Steel Construction Manual* - Helmut C. Schulitz 2000

For ease of comparison all the plans have been drawn to the same scale." "The volume concludes with an extensive bibliography and a listing of the relevant norms and standards, making this work an essential reference for all architects and engineers."--BOOK JACKET.

**Exterior Building Enclosures** - Keith Boswell 2013-06-11

A comprehensive guide to the design and execution of sophisticated exterior building enclosures Focused on the design process for architects and related professionals, this book addresses the design and execution of sophisticated exterior building enclosures for a

number of commercial building types and in a variety of building materials. It focuses on the design process by delineating enclosure basics, the participants (owners, architects, engineers, consultants) and their roles and responsibilities through collaboration, and tracking the design process through construction. This comprehensive handbook covers all of the factors that affect the design of a building enclosure, including function, visual aesthetics, performance requirements, and many other criteria. In-depth case studies of projects of various scales, types, and climate conditions illustrate the successful implementation of exterior wall enclosure solutions in brick masonry, stone, architectural concrete, glass, and metals. This unique and indispensable guide: Defines the functions, physical requirements, design principles, and types of exterior building enclosures Identifies the participants in the design and construction process and specifies their roles and responsibilities Presents a step-by-step process for the design of exterior enclosures, from defining goals and developing concepts through creating construction documents Reviews the construction process from bidding and negotiation through the paper phase to the "brick and mortar" stage Provides details on the properties of exterior enclosure materials, including structural considerations, weather protection, fire safety, and more Covers a variety of materials, including brick masonry, natural stone masonry, architectural concrete, metal framing and glass, and all-glass enclosures Written by the technical director of the San Francisco office of Skidmore, Owings & Merrill, Exterior Building Enclosures is an indispensable resource for architects, engineers, facade consultants, and green design consultants working on commercial building projects.

Construction Manual for Polymers + Membranes  
- Jan Knippers 2012-12-17

Whether it be as translucent sheets, broadly stretched membranes, and inflated foil cushions or in graceful, organic curves, architecture today is utilizing plastics in the most disparate forms and for a wide variety of purposes. Innovative technical developments are constantly improving its material properties; at the same time, there is a growing new awareness of its potential as a

construction material. While plastics used to be employed primarily as an inexpensive variant on traditional building materials, they are increasingly regarded in the construction world today as a serious and viable alternative, be it as supporting structures, roofs, facades, or elements of interior design and decoration. Thanks in large part to this inherent self-sufficiency, plastics are currently enjoying an unprecedented surge in popularity, even among the international architectural avant-garde - as multiwall sheets or corrugated, fiber-reinforced panels, or as filling between glass panes. And the new generation of ecological bioplastics also pays tribute to the debate on sustainability, ridding plastics of their lingering reputation as environmental offenders. From the history of plastics and membranes in architecture to their material properties and requirements in construction and design, the *Plastics and Membranes Construction Manual* cuts to the chase, providing the kind of solid and comprehensive overview of the subject that readers have come to expect from the *Im DETAIL* series. Selected project examples round off the reference work and make it indispensable for the day-to-day life of the professional planner and for every architecture library.

*Construction* - Daniel Mettler 2021-02-22

People involved in architecture need to be familiar with construction methods in order to be in control of their designs. New technical requirements impact on our buildings and call for up-to-date specialist knowledge, which leads to new forms of architecture. This handbook uses clearly comprehensible 3D isometric diagrams to introduce the world of contemporary construction, from concept through to the detail; photographs are used to illustrate the content. The three main chapters deal with the structure, the building envelope, and the fit-out, starting with a clear introduction to the construction principles of modern building methods. Using drawings of selected built examples at scales of 1:10 and 1:20, a deeper examination of details is possible.

**Vibration Problems in Structures** - Hugo Bachmann 2012-12-06

Authors: Hugo Bachmann, Walter J. Ammann, Florian Deischl, Josef Eisenmann, Ingomar Floegl, Gerhard H. Hirsch, Günter K. Klein,

Göran J. Lande, Oskar Mahrenholtz, Hans G. Natke, Hans Nussbaumer, Anthony J. Pretlove, Johann H. Rainer, Ernst-Ulrich Saemann, Lorenz Steinbeisser. Large structures such as factories, gymnasia, concert halls, bridges, towers, masts and chimneys can be detrimentally affected by vibrations. These vibrations can cause either serviceability problems, severely hampering the user's comfort, or safety problems. The aim of this book is to provide structural and civil engineers working in construction and environmental engineering with practical guidelines for counteracting vibration problems. Dynamic actions are considered from the following sources of vibration: - human body motions, - rotating, oscillating and impacting machines, - wind flow, - road traffic, railway traffic and construction work. The main section of the book presents tools that aid in decision-making and in deriving simple solutions to cases of frequently occurring "normal" vibration problems. Complexer problems and more advanced solutions are also considered. In all cases these guidelines should enable the engineer to decide on appropriate solutions expeditiously. The appendices of the book contain fundamentals essential to the main chapters.

**Constructing Architecture** - Andrea Deplazes  
2005-07-25

Now in its second edition: the trailblazing introduction and textbook on construction includes a new section on translucent materials and an article on the use of glass.

**Modern Concrete Construction Manual** -  
Martin Peck 2014-09

A construction material that once was innovative and modern and then fell somewhat into disrepute through some of the quite radical post-war architecture, concrete is today very popular with planners and builders due to its multifaceted nature. The material offers enormous potential through its extensive load-bearing capacities but also due to the diversity of its properties and surface characteristics. In addition to the technical possibilities customarily attributed to concrete construction, the construction material is on the ascendant not least due to the current debate regarding energy efficiency and sustainability, since it seems tailor-made for the realization of the relevant

requirements. It is not just the design and construction of concrete load-bearing structures that are the focus of this publication, but also the materiality and thus the haptic and sensuous side of the material in particular. That's because visible concrete in "smooth gray flawless" quality is not everything that concrete has to offer. Even designers and interior decorators develop furniture and space innovations of unimagined sensuality. The *Modern Concrete Construction Manual* provides the planner with well-founded expert information regarding the construction material of concrete, ranging from manufacturing to materiality to the design of concrete load-bearing structures, including current options for digital design and production processes. As a standard reference volume, the publication offers comprehensive and detailed insights regarding topics including cost-effectiveness, energy and sustainability, renovation, design and interior decoration. An extensive index of works with successful real-life examples provides inspiration and invites the reader to make modern use of a classical construction material.

*Dry Construction* - Karsten Tichelmann  
2012-12-10

*Detail-Practice: Dry Construction* provides an overview of the most widely used dry construction systems, organized according to the building components wall, ceiling, and floor and their applications. The volume is conceived as a practical manual for design and planning. Dry construction in interior design employs "dry construction systems" in place of moisture-retaining materials such as concrete and plaster. Not only is this construction method cost-effective, since the full range of physical requirements, including thermal, cold, and sound insulation, fire safety, etc., can be satisfied. Thanks to the use of new material technologies, it also affords the designer nearly unlimited freedom, since the surfaces involved are almost infinitely malleable as well as multifunctional, capable of assuming the tasks of lighting, heating, and cooling. The general section is supplemented by examples from existing projects with clearly visible reference details as well as from special constructions, for example, in damp locations. The book shows the potential this construction method obtains from

the use of new materials and construction systems. As in the preceding volumes of the series, standard drawings are used to illustrate common construction details. Karsten Tichelmann is the director of the Institut für Trocken- und Leichtbau (Institute for Dry and Lightweight Construction) at the Technische Universität Darmstadt (Darmstadt University of Technology). Jochen Pfau is professor of light-tech, dry, and lightweight construction at the Technische Universität Darmstadt. Both are authors of the *Trockenbau Atlas* (Dry Construction Manual) published by the R. Müller Verlag (available in German only).

**Concrete Construction Manual** - Friedbert Kind-Barkauskas 2013-01-07

The Construction Manuals from Edition Detail are among the most important reference works in the specialist literature. The latest volume shows the potential of the material concrete and documents comprehensively the technical principles of using concrete in construction. Chapters cover the history of the material, the properties of concrete, reinforced concrete, and prestressed concrete, the treatment of its surface. Also covered are the basic principles of statics for large and small structures, and the building requirements with respect to heat, damp, sound-proofing and fire protection according to the most recent norms and standards. Finally a large number of built examples are presented from illustrations of the complete structure down to detailed plans, showing the broad spectrum of applications for concrete in contemporary building. All plans have been specially produced by the editorial department Detail for this book and for ease of comparison, they have been drawn to the same scale.

**Components and Systems** - Gerald Staib 2013-01-07

Construction systems reduced to the smallest possible number of identical elements have long been used by architects to build structures as well as dismantle and change them as quickly, efficiently, and economically as possible. Think of the architecture of the nomads, the Crystal Palace designed by the architect John Paxton for the London World's Fair of 1851, or the modern construction systems of the nineteenth and twentieth centuries in steel, concrete, and wood.

Coupled with modern digital planning and production methods, modular precast construction systems that are adaptable for many combinations and capable of being combined with one other will play an increasingly important role in architecture in the future. The volume *Components and Systems* offers an in-depth and clearly organized presentation of the various types of precast building components - from semifinished products to building with components, open and closed systems, and skeleton and panel construction all the way to spatial cell constructions. The systems are accompanied by detailed drawings and color photographs. Discussions of transporting and assembling the various systems round off the topic and make this book an indispensable practical companion. Seit jeher werden in der Architektur auf möglichst wenige, gleiche Elemente reduzierte Bausysteme verwendet, um möglichst schnell, effizient und ökonomisch ein Bauwerk errichten oder auch abbauen und verändern zu können. Man denke an die Architektur der Nomaden, den Kristallpalast, der 1851 anlässlich der in London stattfindenden Weltausstellung von dem Architekten John Paxton entworfen wurde, oder die modernen Bausysteme des 19. und 20. Jahrhunderts in Stahl, Beton oder Holz. Elementierte, vorgefertigte, für viele Kombinationen anpassungsfähige und untereinander kombinierbare Systeme werden zukünftig, gekoppelt mit modernen digitalen Planungs- und Produktionsmethoden, einen immer wichtigeren Aspekt in der Architektur darstellen. Der neue Band *Elemente und Systeme* zeigt fundiert und übersichtlich die verschiedenen Arten vorgefertigter Bauteile auf - von Halbfabrikaten über das Bauen mit Komponenten, offenen und geschlossenen Systemen, Skelett- und Paneelbauweisen bis zu Raumzellenkonstruktionen. Ergänzt werden die Systeme durch detaillierte Zeichnungen und Farbfotos. Transport und Montage der verschiedenen Systeme runden das Thema ab und machen dieses Buch in der Praxis unverzichtbar.

**Old & New** - Frank Peter Jäger 2010-01-01  
Most of the buildings that will be needed in Europe in the coming decades have long since been built. The building tasks of the future lie in

the skillful reuse and transformation of existing building stock, whether it be the redevelopment of historic city centers, the building of extensions onto residential structures, the expansion of public buildings, or the redevelopment of entire factory areas. Building in the existing fabric calls for highly specific approaches in planning, construction, and implementation. It spans a broad range of building tasks, from working within the guidelines of historic preservation and renovating carefully and cautiously all the way to the complete transformation of what exists. In addition to aesthetic transformation, technical aspects such as improving energy efficiency and working with contaminated building materials also play an important role. This book provides a comprehensive overview of architectonic strategies of "continuing to build." It presents intelligent ideas and approaches for working with existing building stock and divides them into three categories according to the method selected: addition, transformation, and reuse. Presented in this volume are everyday projects such as the revitalizing of structures from the 1950s to the 1970s - for example, the renovation of Siedlung Heuried in Zurich by Adrian Streich Architekten - but also more specialized examples such as the open-air library made of elements recycled from the façade of a department store in Magdeburg-Salbke by Karo\* Architekten. Interviews with experts provide helpful background information on selected topics.

*Glass Construction Manual* - Christian Schittich

1999-01-01

This is a reference work on working with glass. This volume aims to show the wide range of possibilities for using glass in construction, beginning with a historical overview of glass in architecture and explores the principles of construction, with such practical aspects as fixing systems.

**Materials, Structures, and Standards** - Julia McMorrough 2006-01-01

Most architectural standards references contain thousands of pages of details-overwhelmingly more than architects need to know on any given day. Now there is a place where architects can find vital information essential to planning and executing architectural projects of all shapes and sizes-in a format that is small enough to carry anywhere. **Materials, Structures, and Standards** distills the data provided in standard architectural volumes and offers an easy-to-use reference for the most indispensable-and most requested-types of architectural information. Part 1, "Building an Architectural Project," addresses basic geometry, architectural drawing types, AutoCAD guidelines, building codes, accessibility issues, structural and mechanical systems, conventional building components, and sustainable design. Part 2, "Materials," provides a detailed catalog of wood, masonry and brick, metals, concrete, and interior finishes. Also included are an illustrated glossary of architectural terms and a cross-referenced guide to the most helpful books, organizations, and websites.